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From PlayStation to Workstation?

You've finished Crash Bandicoot and mastered Final Fantasy. What else can you do with your video-game console? A lot. Hardware developers and hackers are pushing the envelope of game systems, taking them beyond their traditional role as games-only toys.

How about running Linux on your console? A Czech company, **Blokman Trading** ***(www.runix.ru)***, has ported Linux to the original Sony PlayStation, and **Sony** itself has ported a version of Linux to the PlayStation 2 that comes complete with a hard drive and an Ethernet card. So far, both are endeavors only a hacker could love, not truly useful tools.

ILLUSTRATION BY BEK SHAKIROV

Runix, the upgrade for the first PlayStation, is a 26MB download that must be compiled on a Linux PC, then burned to CD-ROM. Sony has built 2,000 Linux kits for the PS2 that work exclusively with the Japanese version of the console.

This trend is likely to take hold on this side of the Pacific, says Brian O'Rourke, senior analyst at Cahners In-Stat Group. **Microsoft's** upcoming Xbox is at the core essentially a PC (though an inexpensive one, at $299) with a 733MHz Intel processor. "If you can get through the security that Microsoft has in place, I don't see any reason you couldn't use it as a PC," O'Rourke says. "I assume there will be a lot of hackers taking a shot at it."

Do-it-yourself tinkering aside, manufacturers want to stretch the ways their consoles are used. Today, you can play DVD videos on a PlayStation 2 or browse the Web with a Sega Dreamcast. The Xbox is expected to include an Ethernet port for high-speed communications.

O'Rourke points out that product road maps from Sony and Microsoft project their game platforms will become the main home-entertainment devices in the living room—something they can't do with games alone. *—Kevin Savetz*

Shocks for Joystick Jocks

So Mom thinks hacking up the undead with a broadsword is a little creepy? Wait 'til she finds out about the Bioforce. Developed by game controller and peripheral maker **Mad Catz** ***(www.madcatz.com)***, Bioforce promises to give console and PC gamers a truly jolting experience.

Mad Catz's shocking new controller

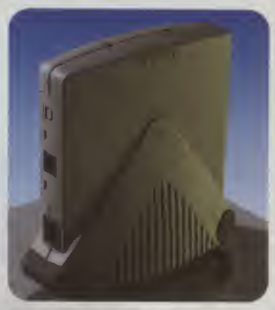
Bioforce-enabled gamepads zap video gamers with an electrical shock (safely, of course) whenever their digital doppelgänger is punched, rocketed, or otherwise gibbed into giblets by an opponent. Mad Catz president Darren Richardson says Bioforce employs technology called biostimulation, which is used by physiotherapists for muscular rehabilitation. Pads attached to a player's arms deliver electrical impulses, and the amount of electrical feedback is adjustable, ranging from a mild buzz to a charge that can jolt the controller right out of a gamer's hands.

Richardson claims Bioforce "takes gaming to a whole other level." But is the concept too far-out to succeed? If the buzz generated by Bioforce at the gaming industry's annual Electronic Entertainment Expo ***(www.e3expo.com)*** this past May is any indication, plenty of 18- to 24-year-old males will soon be gleefully inflicting the electronic equivalent of a wedgie on friends and foes alike. *—Atticus Fisher*

Wired Without (New) Wires

Networking PCs for high-speed Internet access and file sharing is an appealing idea, but tearing down walls to install Ethernet cables is not. And wireless networking, while fast and convenient, is an expensive solution.

Although inexpensive technology for networking your home through phone lines or electrical outlets has existed for years, slow throughput has hampered acceptance. That may change, however, thanks to recent speed increases and technology standards.



Phonex NeverWire 14

Broadcom has developed a chip capable of supporting 32mbps throughput across phone lines. And **Hewlett-Packard** has made use of the new chip in its Digital Entertainment Center, a home-audio device capable of streaming, downloading, and storing music files.

On the power-line front, **Phonex** has developed an external hub, dubbed the NeverWire 14, that's capable of networking devices at 14mbps. Several other companies are expected to release power-line products over the next few months.

Of the two technologies, there could be serious disadvantages to phone-line networking simply because the average home doesn't have a phone jack in every room, says Kurt Scherf, vice president of research at Parks Associates. Nevertheless, he estimates "no-new-wires" PC networks, including wireless solutions, will reach an installed base of 7.5 million by 2005, with phone-line and power-line solutions constituting 60 percent of that market. *—Adam Fisher*